# WinSALTS

**The Windows Version of the SALTS Program**

## Information on INMARSAT-B
## Shipboard Terminals

SALTS CENTRAL

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## What Is INMARSAT-B?

INMARSAT-B service is the digital equivalent of INMARSAT-A service.  INMARSAT-B uses less satellite bandwidth than INMARSAT-A, thus permitting lower calling charges.  INMARSAT-B offers economical, high-quality voice at 16 kilobits per second (KBPS), and fax and data at 9.6 KBPS.  And, with the High-Speed Data (HSD) option, you can connect to the commercial ISDN network.  Maritime and land portable terminals are available for INMARSAT-B service.


## Shipboard INMARSAT-B (Low Speed)

There are several types of shipboard INMARSAT-B systems; however, they all should basically be configured the same way.  Questions about specific systems should be addressed to your INMARSAT vendor.  The majority of INMARSAT-B systems installed on U.S. Navy and Military Sealift Command (MSC) ships utilize the low speed 9.6 KBPS data lines.  This section addresses the low speed 9.6 KBPS systems.

The INMARSAT-B terminal acts as the modem when transmitting data.  You do not use a typical modem and telephone line.  Instead a cable is connected between your computer's serial COM port to the serial port on the INMARSAT-B terminal.  This is true only if your WinSALTS computer and INMARSAT-B terminal is located in the same space.  However, because the majority of WinSALTS computers are located apart from the INMARSAT-B terminal, an RS-232-to-RS-422 converter, the Black Box, is used to increase signal strength, and to connect the WinSALTS computer to the INMARSAT-B terminal.

### *WinSALTS Setup*

The configuration for WinSALTS is as follows:

1.)  Connect the RS-232 serial cable to a COM port WinSALTS computer to the Black Box converter located near the WinSALTS computer.

2.)  Connect the RS-422 serial cable to the Black Box converter near the WinSALTS computer to a 2$^{nd}$ Black Box converter located near the INMARSAT terminal.  This cable may run a great distance through the ship.

3.)  Connect the RS-232 cable from the 2$^{nd}$ Black Box converter located near the INMARSAT terminal to the DTE serial port on the back of the INMARSAT terminal.

4.)  The INMARSAT-B terminal must be configured for the same BAUD rate that WinSALTS has been set for.  Generally, INMARSAT-B terminals are configured for 19.2 KBPS.  Have the INMARSAT Operator verify the setting on the INMARSAT terminal.  Even though the data line is a dedicated 9.6 KBPS, it is hoped, that by setting the rate at the next highest value, a little communications compression may be gained.

5.) In WinSALTS:

    a)   select System
    b)   select Modem Settings
    c)   select the appropriate COM port
    d)   set the BAUD Rate at 19200
    e)   set the Modem Type to HAYES 9600
    f)   set the Call Type to Tone

**Note #1**: You must have WinSALTS version 4.04 or later version to set the BAUD Rate to 19200. Earlier versions of WinSALTS must use the 9600 setting.

**Note #2**: Ensure the INMARSAT-B terminal is set for the same BAUD Rate you have selected in WinSALTS.

**Note #3**: If you are unable to connect at 19.2 KBPS, lower the BAUD Rate to 9.6 KBPS in WinSALTS and on the INMARSAT terminal.

    g)   click the Done button


6.) In WinSALTS:

    a)   select System
    b)   select SALTS Phone No
    c)   click the Add button to add a new INMARSAT phone number entry
    d)   in the Description box, enter: Underway, INMARSAT-B
    e)   in the Phone number box, enter: 001-215-697-9020#
    f)   set the Call Type to Commercial

**Note**: The Call Type should be Commercial even though this phone entry is for INMARSAT. The WinSALTS connections will not likely work if the Call Type is incorrectly set to INMARSAT.


Important Note: The 9020 extension in the modem number above connects to a high-speed modem bank. If you have difficulties establishing a connection to this modem bank, try extension 1107 or 1108.


*WinSALTS Transmissions*

Once the INMARSAT-B terminal and WinSALTS have been properly configured, you should be ready to connect to the SALTS host.

In WinSALTS:

1.)   select Connect
2.)   select By Telephone
3.)   select the INMARSAT-B phone number entry you created in step #6 above
4.)   click the Connect button

**Shipboard INMARSAT-B (High-Speed Data, or HSD)**

The INMARSAT-B HSD option requires that your WinSALTS program be loaded onto a computer that is attached to your ship s local area network (LAN).  When configured with INMARSAT-B HSD, WinSALTS will not use the modem or telephone dialing options.  It will connect to SALTS via your LAN's Internet connection.

The only requirements within the WinSALTS program for use with the INMARSAT-B HSD system are:

1. you have a current, active SALTS account
2. the SALTS account be established as an Internet at SALTS CENTRAL

   **Note**:  Contact SALTS CENTRAL or your nearest SALTS representative for assistance.

3. a TCP/IP package is loaded on the WinSALTS computer

   **Note**: Contact your local computer technical support for assistance.


*WinSALTS Transmissions*

Once the INMARSAT-B HSD terminal and WinSALTS have been properly configured, you should be ready to connect to the SALTS host.

In WinSALTS:

1.) select Connect
2.) select By Internet

At this point, the program should automatically connect to the SALTS host in Philadelphia.

**Note**: If the By Internet option is grayed out, then you do not have TCP/IP loaded on your computer.  Contact your local computer technical support for assistance.


*Firewall Issues*

The SALTS network connection establishes a single connection with the server at one of the following Internet Protocol (IP) Addresses:

      163.12.6.163
      163.12.6.164

Many commands implement a network firewall.  The firewall is used to protect your command s network from outside intrusion or to restrict connections to the outside world.  The WinSALTS program can use one of the following Port sets:

**65** (outgoing) and **66** (incoming)
**16640** (outgoing) and **16896** (incoming)
**80** (outgoing) and **80** (incoming)

These ports may be closed and must be opened in order for your WinSALTS Internet connection to work successfully.  Contact your local network administrator for assistance.

**Configuring the Onboard Proxy Server and Router When Using INMARSAT-B HSD**

The following instructions are reprinted from the Information Technology Systems Advisor (ITSA), Atlantic home page (www.itsalant.navy.mil). These instructions are provided for the ship Systems Administrator to follow in verifying or correcting the existing WinSALTS configuration.

**Note**: These steps assume (1) ships have a Proxy Server installed, accessing the NIPRNET via the onboard router, (2) that access lists have been applied to the router, and that access-list 100 is used on the outbound side and access-list 101 is used on the inbound side. If this is incorrect, substitute the correct number where indicated in the below instructions.

*Step 1*

At the onboard Proxy Server:

       a.) Access the Proxy Server administration via the Internet Information Server Manager.
       b.) Double-click on WINSOCK Proxy.
       c.) Select the Protocols tab, and then click Add.
       d.) For the Protocol Name, enter WINSALTS.
       e.) For the Initial Connection Port using TCP, enter 16640. The Direction should reflect Outbound.
       f.) In the section concerning Port Ranges for Subsequent Connections, click Add. Enter 16640 for the Lower Limit. Enter 16896 for the Upper Limit. Also indicate this uses TCP, and Direction is Inbound.
       g.) Select the Permissions tab.
       h.) Use the drop box to select the newly created WinSALTS protocol.
       i.) Click Add. Navigate as necessary to allow users access to this protocol.
       j.) Click Apply to accept these changes.
       k.) Click OK to exit the WINSOCK Proxy.

*Step 2*

At the onboard Router:

**Note**: Depending on the existing configuration of the Router s access lists, this section may not be necessary at all. The standard installation already allows all protocols off the ship if the traffic is originating via the ship s Proxy Server. These lines open up the Router so only the Proxy Server can communicate outbound via WinSALTS, and also requires that all inbound WinSALTS go through the Proxy Server.

       a.) Telnet into the NIRNET router and log-in.
       b.) Enter the Privileged Mode, type: EN
       c.) Enter the password.
       d.) Enter the Configuration Mode, type: CONF T
       e.) Add the appropriate Outbound entry (insert the IP address of the Proxy Server where the IP address is in the format of *nnn.nnn.nnn.nnn*), type: ACCESS-LIST 100 PERMIT TCP ANY HOST *nnn.nnn.nnn.nnn* EQ 16640
       f.) Add the appropriate Inbound entry (insert the IP address of the Proxy Server where the IP address is in the format of *nnn.nnn.nnn.nnn*), type: ACCESS-LIST 101 PERMIT TCP ANY HOST *nnn.nnn.nnn.nnn* EQ 16896
       g.) Exit the Configuration Mode, type: EXIT
       h.) Save the Configuration, type: WRITE MEM
       i.) Exit the Router.

At this point, the WinSALTS program should be able to connect to the SALTS host using the By Internet option, rather than the By Telephone option.